



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0156; Project Identifier AD-2021-01474-T]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD)

AD 2021-06-03, which applies to all The Boeing Company Model 777F series airplanes.

AD 2021-06-03 requires deactivating the potable water system. Since the FAA issued AD 2021-06-03, Boeing developed new actions to address the unsafe condition, which terminate the action required by AD 2021-06-03. This proposed AD would retain the actions required by AD 2021-06-03 and would require installing a shroud to the water supply line in the forward cargo compartment, and performing a leak test of the potable water system. For certain airplanes, this proposed AD would also require replacing tubes and hoses from the water supply line and installing a shroud to the water return line. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0156.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0156; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Courtney Tuck, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3986; email: Courtney.K.Tuck@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-0156; Project Identifier AD-2021-01474-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Courtney Tuck, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax:

206-231-3986; email: Courtney.K.Tuck@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2021-06-03, Amendment 39-21469 (86 FR 12809, March 5, 2021) (AD 2021-06-03), for all The Boeing Company Model 777F series airplanes. AD 2021-06-03 was prompted by a report of a water supply line that detached above an electronic equipment (EE) cooling filter, leading to water intrusion into the forward EE bay. AD 2021-06-03 requires deactivating the potable water system. The agency issued AD 2021-06-03 to address water entering the EE cooling system via the cooling filter, which can affect multiple EE bay racks and line replaceable units (LRUs), resulting in loss of functionality or inaccurate output of critical electrical systems and possible loss of control of the airplane.

The reported water supply detachment occurred on a Model 777F series airplane with 34,000 total flight hours and 6,000 total flight cycles. During potable water servicing on ground, the operator received multiple messages appearing on the engine indication and crew alert system (EICAS) indicating multiple affected EE LRUs. Further investigation revealed that the location of a joint on a swaged end fitting ferrule of a corrosion resistant stainless steel (CRES) water supply line had become partially or fully detached from the tube, causing water to spill onto an EE cooling filter (directly below the fitting) in the left-hand sidewall at station (STA) 571. The amount and duration of the water spillage are unknown. Water saturated the cooling filter, which was then blown via the EE cooling system into multiple EE LRUs located in the EE bay.

Model 777F series airplanes line numbers (L/Ns) 960 and subsequent have a joint at this location from the factory-installed CRES tube assembly. Boeing released Service Bulletin 777-38-0042 as an economic service bulletin providing operators with airplanes

prior to L/N 960 instructions to retrofit to this configuration at their discretion. Therefore, AD 2021-06-03 requires deactivation of the potable water system for all 777F airplanes with this joint installed either in production or through accomplishment of Boeing SB 777-38-0042.

Actions Since AD 2021-06-03 Was Issued

Since the FAA issued AD 2021-06-03, the FAA has determined that further rulemaking is necessary. The preamble to AD 2021-06-03 specifies that the FAA considers the requirements “interim action” and that the manufacturer is developing a modification to address the unsafe condition. That AD explains that the FAA might consider further rulemaking if a modification is developed, approved, and available. The manufacturer now has developed such a modification, and this proposed AD follows from that determination.

FAA’s Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Boeing Alert Requirements Bulletin 777-38A0048 RB, dated October 18, 2021. This service information specifies procedures for replacing tubes and hoses from the water supply line and installing a shroud to the water supply and return lines in the forward cargo compartment and performing a leak test of the potable water system.

This proposed AD would also require Boeing Multi Operator Message MOM-MOM-21-0089-01B, dated February 26, 2021, which the Director of the Federal Register approved for incorporation by reference as of March 5, 2021 (86 FR 12809, March 5, 2021).

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Proposed AD Requirements in this NPRM

This proposed AD would retain all of the requirements of AD 2021-06-03. This proposed AD would also require accomplishment of the actions identified in Boeing Alert Requirements Bulletin 777-38A0048 RB, dated October 18, 2021, described previously, except as discussed under “Differences Between this Proposed AD and the Service Information,” and except for any differences identified as exceptions in the regulatory text of this proposed AD. This proposed AD would also prohibit the future accomplishment of the actions specified in Boeing Service Bulletin 777-38-0042.

For information on the procedures and compliance times, see this service information at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0156.

Difference Between This AD and the Service Information

Boeing Multi Operator Message MOM-MOM-21-0089-01B, dated February 26, 2021, specifies one Safety Action and six Recommended Actions. Although the FAA recommends accomplishment of all of these actions, this proposed AD would require only deactivation of the potable water system, as specified in the Safety Action of the service information.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 58 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Deactivation of potable water system (retained actions from AD 2021-06-03)	2 work-hours X \$85 per hour = \$170	\$0	\$170	\$9,860
Replace tubes and hoses, and install shroud (new proposed action)	Up to 12 work-hours X \$85 per hour = Up to \$1,020	Up to \$1,850	Up to \$2,870	Up to \$166,460
Potable water system leak test (new proposed action)	2 work-hours X \$85 per hour = \$170	\$0	\$170	\$9,860

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive (AD) 2021-06-03, Amendment 39-21469 (86 FR 12809, March 5, 2021), and
- b. Adding the following new AD:

The Boeing Company: Docket No. FAA-2022-0156; Project Identifier

AD-2021-01474-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2021-06-03, Amendment 39-21469 (86 FR 12809, March 5, 2021) (AD 2021-06-03).

(c) Applicability

This AD applies to all The Boeing Company Model 777F series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 38, Water/waste.

(e) Unsafe Condition

This AD was prompted by a report of a water supply line that detached at a certain joint located above an electronic equipment (EE) cooling filter, leading to water intrusion into the forward EE bay. This AD was also prompted by the development of new actions to address the unsafe condition. The FAA is issuing this AD to address water entering the EE cooling system via the cooling filter, which can affect multiple EE bay racks and line replaceable units (LRUs), resulting in loss of functionality or inaccurate output of critical electrical systems and possible loss of control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Retained Deactivation of Potable Water System, With No Changes

This paragraph restates the requirements of paragraph (g) of AD 2021-06-03, with no changes. For the airplanes identified in paragraphs (g)(1) and (2) of this AD: Within 5

days after March 5, 2021 (the effective date of AD 2021-06-03), deactivate the potable water system, in accordance with Boeing Multi Operator Message MOM-MOM-21-0089-01B, dated February 26, 2021 (Boeing MOM-MOM-21-0089-01B).

(1) Line numbers (L/Ns) 959 and earlier on which the actions specified in Boeing Service Bulletin 777-38-0042 have been accomplished.

(2) L/Ns 960 and subsequent.

Note 1 to paragraph (g): Guidance on deactivating the potable water system can be found in Boeing 777 Aircraft Maintenance Manual (AMM) Task 38-10-00-040-801.

(h) Retained Installation Prohibition, with No Changes

This paragraph restates the requirements of paragraph (h) of AD 2021-06-03, with no changes. For airplanes not identified in paragraph (g) of this AD: As of March 5, 2021 (the effective date of AD 2021-06-03), accomplishment of the actions specified in Boeing Service Bulletin 777-38-0042 is prohibited.

(i) Retained Reporting Provisions, with No Changes

This paragraph restates the requirements of paragraph (i) of AD 2021-06-03, with no changes. Although Boeing MOM-MOM-21-0089-01B specifies to report inspection findings, this AD does not require any report.

(j) New Required Actions

Except as specified by paragraph (k) of this AD: At the applicable times specified in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 777-38A0048 RB, dated October 18, 2021, do all applicable actions identified in, and in accordance with, the Accomplishment Instructions of Boeing Alert Requirements Bulletin 777-38A0048 RB, dated October 18, 2021.

Note 1 to paragraph (j): Guidance for accomplishing the actions required by this AD can be found in Boeing Alert Service Bulletin 777-38A0048, dated October 18, 2021,

which is referred to in Boeing Alert Requirements Bulletin 777-38A0048 RB, dated October 18, 2021.

(k) Exceptions to Service Information Specifications

Where the Compliance Time columns of the tables in the “Compliance” paragraph of Boeing Alert Requirements Bulletin 777-38A0048 RB, dated October 18, 2021, use the phrase “the Original Issue date of Requirements Bulletin 777-38A0048 RB,” this AD requires using “the effective date of this AD.”

(l) Terminating Action for Deactivation of Potable Water System

Accomplishment of the required actions specified in the Accomplishment Instructions of Boeing Alert Requirements Bulletin 777-38A0048 RB, dated October 18, 2021, terminates the potable water system deactivation required by paragraph (g) of this AD.

(m) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (n)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the

Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(n) Related Information

(1) For more information about this AD, contact Courtney Tuck, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3986; email: Courtney.K.Tuck@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the

FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St.,
Des Moines, WA. For information on the availability of this material at the FAA, call
206-231-3195.

Issued on March 7, 2022.

Derek Morgan, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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